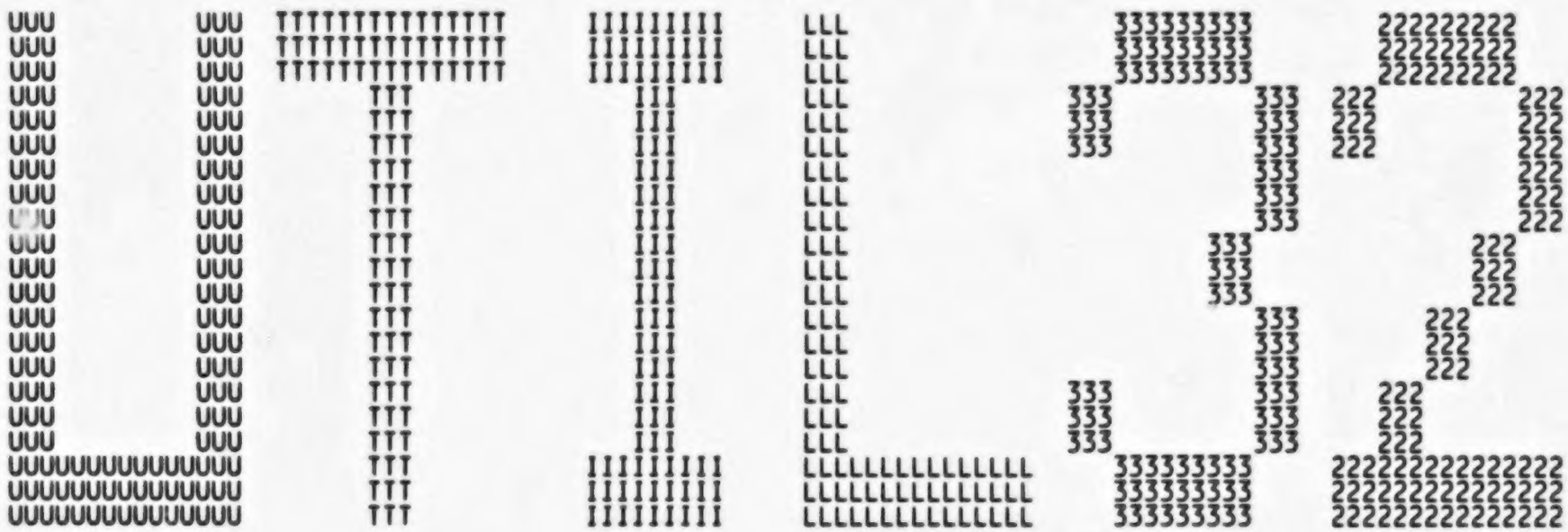
UUU UUU TTTTTTTTTTTTTTT IIIIIIIII LLL 333333333 222222222
UUU UUU TTTTTTTTTTTTTTT IIIIIIIII LLL 333333333 222222222
UUU UUU TTTTTTTTTTTTTTT IIIIIIIII LLL 333333333 222222222
UUU UUU TTT III LLL 333 333 222 222
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UUUUUUUUUUUUUUU TTT IIIIIIIII LLLLLLLLLLLLLLL 333333333 222222222222222
UUUUUUUUUUUUUUU TTT IIIIIIIII LLLLLLLLLLLLLLL 333333333 222222222222222
UUUUUUUUUUUUUUU TTT IIIIIIIII LLLLLLLLLLLLLLL 333333333 222222222222222

```
  GGGGGGGG  EEEEEEEEEE  TTTTTTTTTT  DDDDDDDD     IIIIII    NN      NN  FFFFFFFFFF    000000
  GGGGGGGG  EEEEEEEEEE  TTTTTTTTTT  DDDDDDDD     IIIIII    NN      NN  FFFFFFFFFF    000000
GG          EE              TT      DD      DD     II     NN      NN  FF          00      00
GG          EE              TT      DD      DD     II     NN      NN  FF          00      00
GG          EE              TT      DD      DD     II     NNNN    NN  FF          00      00
GG          EE              TT      DD      DD     II     NNNN    NN  FF          00      00
GG          EEEEEEEE        TT      DD      DD     II     NN  NN  NN  FFFFFFFF    00      00
GG          EEEEEEEE        TT      DD      DD     II     NN  NN  NN  FFFFFFFF    00      00
GG  GGGGGG  EE              TT      DD      DD     II     NN    NNNN  FF          00      00
GG  GGGGGG  EE              TT      DD      DD     II     NN    NNNN  FF          00      00
GG      GG  EE              TT      DD      DD     II     NN      NN  FF          00      00    ....
GG      GG  EE              TT      DD      DD     II     NN      NN  FF          00      00    ....
  GGGGGG    EEEEEEEEEE      TT      DDDDDDDD     IIIIII   NN      NN  FF            000000      ....
  GGGGGG    EEEEEEEEEE      TT      DDDDDDDD     IIIIII   NN      NN  FF            000000      ....

LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

Table of contents

```
0000     1          .TITLE GET_DEVICE_INFO - Get device information
0000     2          .IDENT  'V04-000'
0000     3
0000     4  ;
0000     5  ;*****************************************************************************
0000     6  ;*                                                                           *
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0000    23  ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                   *
0000    24  ;*                                                                           *
0000    25  ;*                                                                           *
0000    26  ;*****************************************************************************
0000    27
0000    28  ;++
0000    29  ; FACILITY: Performance Monitoring
0000    30  ;
0000    31  ; ABSTRACT:
0000    32  ;       Collects device information for performance
0000    33  ;       monitoring and returns same in supplied buffer.
0000    34  ;
0000    35  ; ENVIRONMENT:
0000    36  ;       MODE = KERNEL
0000    37  ;
0000    38  ; AUTHOR: S. S. AMWAY, CREATION DATE: 24-Oct-83
0000    39  ;
0000    40  ; MODIFIED BY:
0000    41  ;
0000    42  ;       V03-002 SSA0024         Stan Amway       9-Apr-1984
0000    43  ;               Ignore disk UCB's with CDP bit set in UCB$L_DEVCHAR2.
0000    44  ;               (No I/O can ever take place to these units.)
0000    45  ;
0000    46  ;       V03-001 SSA0006         Stan Amway       1-Feb-1984
0000    47  ;               Call IOC$CVT_DEVNAM requesting allocation
0000    48  ;               class format of device name.
0000    49  ;
0000    50  ;--
```

```
                                K 9
                     0000    52          .SBTTL  DECLARATIONS
                     0000    53
                     0000    54 ;
                     0000    55 ; INCLUDE FILES:
                     0000    56 ;
                     0000    57
                     0000    58          $DCDEF
                     0000    59          $DEVDEF
                     0000    60          $SSDEF
                     0000    61          $UCBDEF
                     0000    62
                     0000    63 ;
                     0000    64 ; EQUATED SYMBOLS:
                     0000    65 ;
                     0000    66
00000004             0000    67 BUFADDR=4
00000008             0000    68 BUFLEN=8
0000000C             0000    69 DCLASS=12
00000010             0000    70 DEVTYPE=16
00000014             0000    71 DEVCOUNT=20
                     0000    72
```

```
                                        .SBTTL  GET_DEVICE_INFO - Collect device information

                                ;++
                                ; FUNCTIONAL DESCRIPTION:
                                ;       Collects device information for specified device classes & types.
                                ;
                                ; CALLING SEQUENCE:
                                ;       CALLS/CALLG GET_DEVICE_INFO
                                ;
                                ; INPUT PARAMETERS:
                                ;        4(AP)=Buffer address
                                ;        8(AP)=Buffer length
                                ;       12(AP)=Device class
                                ;       16(AP)=Device type
                                ;
                                ; IMPLICIT INPUTS:
                                ;       NONE
                                ;
                                ; OUTPUT PARAMETERS:
                                ;       20(AP)=Count of devices in buffer
                                ;
                                ; IMPLICIT OUTPUTS:
                                ;       Buffer is filled with device data
                                ;
                                ; COMPLETION CODES:
                                ;       SS$_NORMAL
                                ;       SS$_INSFARG
                                ;       SS$_IVBUFLEN
                                ;       SS$_ACCVIO
                                ;
                                ; SIDE EFFECTS:
                                ;       NONE
                                ;
                                ;--
                                        .PSECT  $CODE ,  PIC,CON,REL,LCL,  SHR,  EXE,  RD,NOWRT,LONG

                                        .ENTRY  GET_DEVICE_INFO,^M<R2,R3,R4,R5,R6,R7,R8,R9,R10,R11>
                                        MOVZWL  #SS$_INSFARG,R0
                                        CMPL    (AP),#5                 ; Must have 5 arguments
                                        BEQL    5$
                                1$:     BRW     9999$
                                5$:     MOVZWL  #SS$_IVBUFLEN,R0
                                        MOVL    BUFLEN(AP),R7           ; R7 <= buffer length
                                        DIVL3   #32,R7,R8               ; R8 <= max # of devices
                                        BLEQ    1$                      ; Error if <= 0
                                        MOVL    BUFADDR(AP),R6          ; R6 <= buffer address
                                        MOVZWL  #SS$_ACCVIO,R0
                                        IFNOWRT SIZ=R7,-                ; Make sure buffer
                                                ADR=(R6),-
                                                DEST=1$
                                        IFNOWRT SIZ=#4,-                ; and device name counter
                                                ADR=@DEVCOUNT(AP),-     ; are writable
                                                DEST=1$
                                        CLRL    @DEVCOUNT(AP)           ; Zero device name counter
                                        MOVL    G^SCH$GL_CURPCB,R4      ; R4 <= PCB address of this process
                                        JSB     G^SCH$IOLOCKR           ; Lock I/O database (returns @ IPL 2)
                                        CLRQ    R10                     ; Clear UCB/DDB context
```

```
                                                M 9
                00000000'GF   16  0044   131 10$:    JSB     G^IOC$SCAN_IODB             ; Get next device UCB address
                        5E 50 E9  004A   132         BLBC    R0,100$                     ; Quit if done
                        0C AC 95  004D   133         TSTB    DCLASS(AP)                  ; Accept all devices classes ?
                           0B 19  0050   134         BLSS    20$                         ; BR if yes
                40 AA   0C AC 91  0052   135         CMPB    DCLASS(AP),UCB$B_DEVCLASS(R10)  ; Device class match ?
                           04 13  0057   136         BEQL    20$                         ; BR if yes
                           5A D4  0059   137         CLRL    R10                         ; Skip entire controller
                           E7 11  005B   138         BRB     10$
                        10 AC 95  005D   139 20$:    TSTB    DEVTYPE(AP)                 ; Accept all device types ?
                           09 19  0060   140         BLSS    30$                         ; BR if yes
                41 AA   10 AC 91  0062   141         CMPB    DEVTYPE(AP),UCB$B_DEVTYPE(R10)  ; Device type match ?
                           02 13  0067   142         BEQL    30$                         ; BR if yes
                           D9 11  0069   143         BRB     10$                         ; Get next device
                   01   40 AA 91  006B   144 30$:    CMPB    UCB$B_DEVCLASS(R10),#DC$_DISK ; If disk device and
                           05 12  006F   145         BNEQ    40$                         ; CDP bit set,
                CE 3C AA   03 E0  0071   146         BBS     #DEV$V_CDP,UCB$L_DEVCHAR2(R10),10$ ; get next device
                        86 5A D0  0076   147 40$:    MOVL    R10,(R6)+                   ; Buffer gets UCB address
                        57 04 C2  0079   148         SUBL2   #4,R7                       ; R7 <= updated buffer length
                        51 56 D0  007C   149         MOVL    R6,R1                       ; R1 <= buffer address
                        50 57 D0  007F   150         MOVL    R7,R0                       ; R0 <= buffer length
                        54 01 D0  0082   151         MOVL    #1,R4                       ; R4 <= Format control
                        55 5A D0  0085   152         MOVL    R10,R5                      ; R5 <= UCB address
                00000000'GF   16  0088   153         JSB     G^IOC$CVT_DEVNAM
                        1A 50 E9  008E   154         BLBC    R0,100$
          66 10 20   66 51 2C     0091   155         MOVC5   R1,(R6),#^A/ /,#16,(R6)     ; Pad device name to 16 characters
                        56 53 D0  0097   156         MOVL    R3,R6                       ; R6 <= updated buffer address
                  86   38 AA 7D   009A   157         MOVQ    UCB$Q_DEVCHAR(R10),(R6)+    ; Get device characteristics
                              009E   158
                              009E   159         ASSUME  UCB$B_DEVTYPE   EQ      UCB$B_DEVCLASS+1
                              009E   160
                     40 AA 3C 009E   161         MOVZWL  UCB$B_DEVCLASS(R10),-       ; Get device class & type
                        86    00A1   162                 (R6)+
                     57 1C C2 00A2   163         SUBL2   #28,R7                      ; R7 <= updated buffer length
                     14 BC D6 00A5   164         INCL    @DEVCOUNT(AP)               ; Count another device name
                     99 58 F5 00A8   165         SOBGTR  R8,10$
          54    00000000'GF D0 00AB   166 100$:  MOVL    G^SCH$GL_CURPCB,R4          ; R4 <= PCB address of this process
                00000000'GF 16 00B2   167         JSB     G^SCH$IOUNLOCK              ; Unlock I/O database
                            00B8   168         SETIPL  #0                          ; Restore IPL
                     50 01 3C 00BB   169 9998$:  MOVZWL  #SS$_NORMAL,R0
                           04 00BE   170 9999$:  RET
                              00BF   171
                              00BF   172         .END
```

```
BUFADDR                 = 00000004
BUFLEN                  = 00000008
DC$_DISK                = 00000001
DCLASS                  = 0000000C
DEV$V_CDP               = 00000003
DEVCOUNT                = 00000014
DEVTYPE                 = 00000010
GET_DEVICE_INFO           00000000 RG    02
IOC$CVT_DEVNAM            ******** X     02
IOC$SCAN_IODB             ******** X     02
PR$_IPL                   ******** X     02
SCH$GL_CURPCB             ******** X     02
SCH$IOLOCKR               ******** X     02
SCH$IOUNLOCK              ******** X     02
SS$_ACCVIO              = 0000000C
SS$_INSFARG             = 00000114
SS$_IVBUFLEN            = 0000034C
SS$_NORMAL              = 00000001
UCB$B_DEVCLASS          = 00000040
UCB$B_DEVTYPE           = 00000041
UCB$L_DEVCHAR2          = 0000003C
UCB$Q_DEVCHAR           = 00000038
```

Psect synopsis

PSECT name	Allocation	PSECT No.	Attributes
. ABS .	00000000 (0.)	00 (0.)	NOPIC USR CON ABS LCL NOSHR NOEXE NORD NOWRT NOVEC BYTE
ABS	00000000 (0.)	01 (1.)	NOPIC USR CON ABS LCL NOSHR EXE RD WRT NOVEC BYTE
$CODE	000000BF (191.)	02 (2.)	PIC USR CON REL LCL SHR EXE RD NOWRT NOVEC LONG

Performance indicators

Phase	Page faults	CPU Time	Elapsed Time
Initialization	48	00:00:00.10	00:00:00.65
Command processing	165	00:00:00.68	00:00:02.62
Pass 1	288	00:00:08.89	00:00:24.95
Symbol table sort	0	00:00:01.52	00:00:02.84
Pass 2	46	00:00:01.51	00:00:03.27
Symbol table output	4	00:00:00.07	00:00:00.13
Psect synopsis output	1	00:00:00.03	00:00:00.02
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	554	00:00:12.82	00:00:34.49

The working set limit was 1350 pages.
49304 bytes (97 pages) of virtual memory were used to buffer the intermediate code.
There were 60 pages of symbol table space allocated to hold 1026 non-local and 9 local symbols.
172 source lines were read in Pass 1, producing 16 object records in Pass 2.
14 pages of virtual memory were used to define 13 macros.

```
                              +----------------------------+
                              ! Macro library statistics !
                              +----------------------------+

Macro library name                              Macros defined
------------------                              --------------
_$255$DUA28:[SYS.OBJ]LIB.MLB;1                               3
_$255$DUA28:[SYSLIB]STARLET.MLB;2                            7
TOTALS (all libraries)                                      10

1105 GETS were required to define 10 macros.

There were no errors, warnings or information messages.

MACRO/LIS=LIS$:GETDINFO/OBJ=OBJ$:GETDINFO MSRC$:GETDINFO/UPDATE=(ENH$:GETDINFO)+EXECML$/LIB
```

0429 AH-BT13A-SE
VAX/VMS V4.0

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